plastic injection is controlled from an initially slow rate and increasing to a faster rate after the cone is filled and as the plastic completes the filling of the cylindrical section. Once the control of the gas injection speed and the pressure is achieved, the valve is opened to the secondary cavity allowing the plastic in the center of the tubular component to be expelled. With this embodiment, it is also preferable for the distal end of the tubular section to have a cone-shaped configuration which gradually reduces the flow of plastic to a thinner section. This allows the expulsion of the plastic to be controlled through the outflow runner and stop valve.

[0023] Other objects, features, and benefits of the present invention will become apparent from the following specification when viewed together with the accompanying drawings and appended claims.

Brief Description of the Drawings

[0024] FIGURES 1A-1E illustrate a sequence of steps in a preferred embodiment of the present invention;

[0025] FIGURE 2 is a graph further illustrating the in mold pressure time sequence embodiment of the present invention as set forth in Figures 1A-1E;

[0026] FIGURES 3A-3E illustrate an alternate embodiment of the present invention;

[0027] FIGURES 4A-4F illustrate an alternate embodiment of the invention in which two secondary cavities are utilized;

[0028] FIGURES 5A-~~5E~~ 5F illustrate a sequence of steps in another preferred embodiment of the present invention, particularly used for the manufacture of hollow tubular components; and

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[0029] FIGURES 6 and 7 illustrate alternate embodiments at the entrance end of the hollow tubular component embodiment.

Description of the Preferred Embodiment(s)

[0030] Figures 1A-1E illustrate the sequence of steps forming a preferred embodiment of the present invention. This process is referred to generally by the reference numeral 10 in the drawings. In Figure 1A, a quantity of molten plastic material